A STUDY

OF

NINE HUNDRED AND SIXTY-FIVE CASES

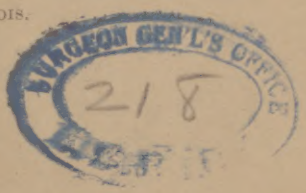
OF

CHRONIC PULMONARY DISEASE.

BY

F. H. DAVIS,

OF CHICAGO, ILLINOIS.



EXTRACTED FROM THE

TRANSACTIONS OF THE AMERICAN MEDICAL ASSOCIATION.

PHILADELPHIA:

COLLINS, PRINTER, 705 JAYNE STREET.

1877.

A STUDY

OF

NINE HUNDRED AND SIXTY-FIVE CASES

OF

CHRONIC PULMONARY DISEASE.

BY

F. H. DAVIS,

OF CHICAGO, ILLINOIS.

EXTRACTED FROM THE
TRANSACTIONS OF THE AMERICAN MEDICAL ASSOCIATION.

PHILADELPHIA:
COLLINS, PRINTER, 705 JAYNE STREET.
1877.

A STUDY OF NINE HUNDRED AND SIXTY-FIVE CASES OF CHRONIC PULMONARY DISEASE.

DURING the past year I have compiled from my dispensary and private practice a more or less complete record of nine hundred and sixty-five cases of chronic pulmonary disease, classified as follows:—

	Dispensary.	Private.
Chronic catarrhal bronchitis	273	130
" rheumatic "	181	102
Chronic bronchitis, accompanied by gastric derangement and spasmodic dyspnœa	79	40
Chronic bronchitis, modified by syphilitic disease	30	7
Hereditary pulmonary tuberculosis	26	30
Inflammatory pulmonary phthisis	56	11
	645	320

The dispensary patients in our larger cities being mostly drawn from the poorer class of working people, are subject to more or less exposure and hardship, poor living, and faulty hygienic surroundings. These circumstances increase very considerably the relative prevalence of chronic pulmonary diseases of inflammatory origin among this class. The most marked increase would seem from my record to be in the class denominated inflammatory phthisis. True hereditary pulmonary tuberculosis seems, on the other hand, to have been very much less common in proportion among the dispensary class of patients than in private practice. Nasal, laryngeal, and bronchial catarrhs, more or less prevalent in all temperate climates, find an especially congenial home in our lake cities. The presence of a large body of fresh water modifies the climatic conditions, making our winters warmer and our summers cooler, but also renders us liable to frequent sudden and marked changes in atmospheric temperature and moisture at all seasons of the year.

These sudden changes are particularly conducive to acute catarrhal inflammations, and the frequent repetition of these acute attacks soon leads to the establishment of a chronically thickened, inflamed, and sensitive condition of the mucous lining of the air-passages. This locally sensitive, excitable condition of the respiratory tract, once fixed, and seated either in the nasal, pharyngeal, laryngeal, or bronchial regions, is liable to persist from year to year for an indefinite period, in spite of the best endeavors of the physician to overcome it, while the patient remains subject to the climatic conditions that caused it.

The changeable weather of spring and fall with each recurring season will bring on the usual attack; while the summer and usually the cold dry weather of midwinter bring comparative immunity. The patients afflicted with these chronic catarrhal inflammations soon come to recognize the fact, that while the physician can afford them relief from the more immediate and troublesome symptoms, and perhaps cut short somewhat the duration of an attack, he entirely fails to afford them any protection against a recurrence of the trouble, the first time that circumstances favor.

Patients who may be in circumstances to avail themselves of that expensive prescription, change of climate, and who can spend the fall, winter, and spring in some warm, dry climate, for one, two, or three seasons, can pretty certainly obtain a positive cure. Whether the cure remains permanent on re-exposure to unfavorable climatic conditions, will depend very much upon the individual constitution, and still more, probably, upon the habits, mode of life, etc., of the patient.

In fifteen cases, in private practice, I have been enabled to effect an apparently permanent cure of chronic bronchitis, several of the cases being of long standing and considerable severity, by the use of compressed and rarefied air inhalations. The inhalation of compressed air, followed by exhalation into rarefied air, practised for ten minutes once or twice daily, diminishes the capillary congestion and consequent hypertrophy of the mucous lining of the bronchi and restores the tone and contractility to these vessels. To be efficient it must be followed up, however, for from six to twenty months, and must be accompanied by a strict regulation of the habits of living, clothing, exercise, etc.

The skin must be protected by flannel at all seasons in our climate, and the feet kept warm and dry. A reasonable amount

of out-door exercise must be taken every day when the weather will permit. Exposure to the cold, chilling rains of spring and fall must be avoided, as also exposure to night air. Smoking or the use of tobacco in any form should be prohibited. Exposure to draughts or sudden changes of temperature, as in passing from a warm room to the cooler outside air without additional protection, must be closely guarded against. The patient should sleep in a good sized, well ventilated room where no draught can reach the bed, and which can be comfortably warmed in winter. With careful attention to these points of hygiene, the use of compressed and rarefied air, and from time to time such other treatment as particular circumstances may indicate will, in most cases, overcome a chronic catarrhal bronchitis, not as rapidly nor as surely, however, as by a change of climate.

To the poorer classes where we find the largest prevalence of these diseases, change of climate is not usually possible; neither do their hygienic surroundings, habits of living, and the necessary exposure incident to their work make them promising cases for the compressed air treatment.

As a palliative treatment in these dispensary cases, where no better means can be efficiently carried out, ammonia hydrochloras in combination with some anodyne and expectorant has proved itself the most efficient. Such a mixture will allay the cough and dyspnœa in a large majority of the cases, and while under its influence the patients will remain comfortable. The addition of from three to six or eight drops of chloroform to each dose, obtaining a still stronger anodyne and antispasmodic effect, will succeed in some otherwise intractable cases.

Aside from the discomfort and suffering immediately attending these attacks of bronchitis, the patient has usually nothing to apprehend from their recurrence. The disease is strictly chronic and local in its nature, and in a healthy, robust constitution never occasions any impairment of flesh, strength, or general vigor. Among the four hundred and three cases of chronic catarrhal bronchitis contained in my records, there were but thirty that presented any symptoms of constitutional impairment. These were all patients of advanced age, who had suffered for many years from the disease, and where the chronic thickening and submucous infiltration of the lining of the bronchial tubes had reached a point where it very materially impeded the en-

trance of air into the lungs, producing deficient æration of the blood and the usual consequences.

The record contains one hundred and eighty-six cases over 45 years of age, in whom the disease had existed for from ten to twenty years, and except in the thirty cases mentioned, the general vigor, strength, appetite, and digestion were maintained up to the ordinary standard proportioned to the age.

All the records that I have consulted, as well as my own, agree upon this point, that in a healthy constitution, catarrh, no matter how long it may persist, retains always its local inflammatory character. In a constitution having either an hereditary or acquired constitutional tendency to tubercular or degenerative change, the local inflammation may, as the spark that kindles the flame, serve as the exciting cause to kindle into activity the disease already seated, but latent.

Intemperance, constitutional syphilis, poor living, damp, unhealthy surroundings may, either in the individuals themselves or their children, or both, develop a constitutional condition favorable to the production of inflammatory phthisis, or croupous pneumonia, as the German pathologists prefer to term it. Then it requires but the exciting influence of a severe cold, or bronchial catarrh, to start this constitutional condition into activity.

My record contains one hundred and nineteen cases of chronic bronchitis, presenting a special gastric and nervous complication. In addition to the usual physical signs of chronic catarrhal bronchitis of greater or less severity, we find in these cases symptoms of indigestion and gastric irritability—a lack of tone or digestive power—a tendency to acidity and fermentation and consequent flatulency following the ingestion of food.

The dyspnœa which is very common and exceedingly troublesome in throat cases, presents a markedly paroxysmal or spasmodic character, and seems to hold a sympathetic connection through the pneumogastrics with the gastric derangement. These cases occur almost invariably among those who have been addicted to an excessive use of alcoholic stimulants, or of strong tea. The latter indulgence is a very common practice among the females of the lower classes, and this over-stimulation of the nervous system by excessive use of strong tea has an equally pernicious, if not a worse, influence than the excessive use of alcoholic stimulants. In these cases, treatment must be directed primarily towards controlling the gastric and nervous irritability. It is fre-

quently an extremely difficult condition to overcome, and in some cases the whole range of the materia medica, almost, may be gone over without any apparent success. I have been in the habit of trying, first, a combination of liq. ammonia acet., syr. ipecac., and tr. opii camph. with a larger proportion of successes than from any other one combination.

The œnothera biennis, or evening primrose, either in decoction or fluid extract alone, or in combination with an opiate, will also relieve promptly some of these cases where other means have failed. Its action seems to be that of a sedative to the pneumogastric, and as improving the tone of the digestion. A somewhat limited trial of the grindelia robusta has failed to develop any beneficial effects from its use, either in this special class of cases or in the ordinary forms of chronic catarrhal bronchitis and bronchial asthma. In six cases of true spasmodic asthma the grindelia robusta did exert a more or less favorable action.

Two hundred and eighty-three cases I have recorded as chronic rheumatic bronchitis. In these cases auscultation presents dry sonorous or sibilant râles, rather than the mucous râles of catarrhal bronchitis; a harsh dry cough, scanty expectoration, and quite a marked spasmodic dyspnœa. There will be found present more or less evidence of general muscular and articular rheumatism of a chronic grade, and it would appear that this rheumatic influence affecting the muscular and fibrous structures of the bronchial tubes occasions their spasmodic construction, and the consequent asthmatic symptoms. At all events colchicum acts almost as a specific in these cases, affording prompt and certain relief.

In thirty-seven cases manifesting the ordinary symptoms of chronic bronchitis there was a secondary or tertiary form of syphilis developed. In these cases the bronchitis yielded more promptly where mercurials and the iodides were added to the ordinary treatment.

Of phthisis pulmonalis I have recorded one hundred and twenty-three cases. Of these fifty-six gave a family history of tuberculosis, while in sixty-seven cases the constitutional condition was apparently acquired, not hereditary. Of the former or hereditary class twenty-six were dispensary and thirty were private patients, which, as the whole number of cases recorded is in the proportion of two dispensary to one private case, shows a very much larger proportionate prevalence of true hereditary tubercu-

losis among the private patients. Of the second or inflammatory class, on the other hand, fifty-six were dispensary cases, and only eleven from private practice. The circumstances and conditions surrounding the dispensary class of cases—exposure, hard work, bad hygienic surroundings, and intemperance all tend to lower the vitality, and to lessen the powers of the system to resist or overcome disease. The poor are also accustomed to neglect disease when acquired, until the more manageable stage is past, while the well-to-do apply to the physician early and promptly. These facts easily account for the much larger proportion of cases of inflammatory phthisis in dispensary than in private practice. Pneumonic inflammations, accompanied by granular exudation into the air cells, instead of undergoing in due course the process of resolution and reabsorption of the exudation, degenerates into a suppurating and destructive process, and follows the course and history of true tuberculosis to a fatal termination.

Lacking the specific element of true tubercular deposits, an interstitial degenerative infiltration, as distinguished from the non-specific pneumonic or croupous exudation into the air cells, these cases when early recognized and so circumstanced as to be under complete control are easily manageable and curable in most instances.

Unfortunately, however, among the poorer classes, where the larger number of these cases occur, necessity, not choice, must control the occupation, hygienic surroundings, and living of the patient. These, however bad or unfavorable, frequently cannot be altered, and such opportunity as may exist for effecting a cure is not available to the patient. In only eighteen of the sixty-seven cases was I able to have the essential points of treatment efficiently and persistently carried out. All of these are either cured or on the road to recovery.

The essentials to success in these cases consist, I believe, in proper food and clothing and hygienic surroundings; regular habits of living; an occupation that will permit of a reasonable amount of out-door exercise, but will not necessitate prolonged exposure in inclement weather; and lastly and most important, a regular systematic practice of full, deep respiration. This is best assisted for a time, and the habit of full respiration fixed and established, by the inhalation of compressed and the exhalation into rarefied air for ten minutes, once or twice a day. I have devised an apparatus for the practice of compressed and

rarefied air respiration, which, as the cheapest and simplest apparatus of the many recommended for the purpose, I may be pardoned for briefly describing.

Two galvanized iron gasometers, each twenty-four inches in height and fifteen inches in diameter, are placed side by side, and connected by parallel bars of wood; a lever, by which the two gasometers can be raised or lowered, and any desirable pressure or suction obtained; a rubber hose is connected to each tank at one end, and to a double mouth-piece at the other end. The patient inhales from the one tank as the lever is lowered and the pressure applied; he then exhales immediately into the second as the lever is raised and the suction applied. Any tinsmith can make the apparatus, and at a very moderate cost. The further discussion of compressed and rarefied air respiration does not come, however, within the province of this paper.

The only other elements of treatment in these cases were cod-liver oil or malt extract, when required to build up constitutional strength and vigor, and other medicinal treatment, as particular symptoms required.

Seek out and find the particular vice or cause underlying the constitutional degeneration or debility; whether in the habits, occupation, or surroundings of your patient: change these, and then re-establish a healthy active capillary circulation in the lungs that will favor the re-absorption of such exudative deposits as may have taken place, instead of allowing the degenerative destructive process to take place. This must be accomplished by establishing the habit of full, deep respiration. It is not always easy or possible to trace out the cause underlying the constitutional condition in these cases. Of my sixty-seven cases, forty were traceable to habitual excesses in the use of alcoholic stimulants. In twelve cases, extreme poverty and consequent unhealthy living and surroundings, together with insufficient clothing, exposure, and hard work afforded a ready explanation of the condition. In five cases the remote effects of constitutional syphilis were traceable, and were probably the responsible cause. In the other ten cases no positive cause could be determined from the history given by the patient.

The comparative ages at which the disease was developed in the hereditary and in the inflammatory cases is shown by the following table:—

Age.	Hereditary.	Inflammatory.	Age.	Hereditary.	Inflammatory.
7	1		28		2
8	2		29	1	2
9	2		30	2	6
10	4		31		3
11	2		32	2	2
12	2		34	2	
13	5		35	1	3
14	2		36	1	
15	6		37		2
17	1		38		5
18	3	2	39		2
19	5	3	40		2
20	3	3	41		4
21	6	4	45		4
22	2	3	46		1
23		1	47		2
24		3	51		1
25	1	1	58		1
26		3		—	—
27		2		56	67

This shows forty-four out of fifty-six cases of hereditary tuberculosis developed before the age of 21 years, and none developed later than the 36th year. The cases of inflammatory phthisis, on the other hand, were none of them developed previous to the age of 18 years, and fifty-seven of the sixty-seven cases were developed after the 21st year. Fifteen cases were between 40 and 60 years of age. These facts speak for themselves as the marked contrast between hereditary and acquired phthisis.

As to the treatment of true tuberculosis, I have nothing new to offer. The contest in those cases is narrowed down to a fight against particular symptoms as they arise.

In the primary incipient stage the respiration of compressed and rarefied air is frequently beneficial, and may cause an arrest of progress, or even an apparent re-absorption, and for the time, at least, a cure. But these favorable results are not as frequent or as uniform, by any means, as the inflammatory group.

In the second stage, after softening has commenced, compressed or rarefied air is contraindicated, as liable to favor hemorrhage.